

# THE OMINOUS AUDIO BLOCK

THIS IS HOW MOST DIGITAL SIGNAL PROCESSING (DSP)  
INTERFACES WITH THE WORLD:

```
void process(float[][] input, float[][] output) {  
    // process input + output  
}
```

WHY SHOULD YOU KNOW ABOUT THIS?

# 1. IF YOU WANT TO USE OR INTEGRATE OR MODIFY:

- LIBRARIES
- APIS
- SNIPPETS ( E.G FROM CHATGPT )

## 2. IF YOU WANT TO ROLL YOUR OWN:

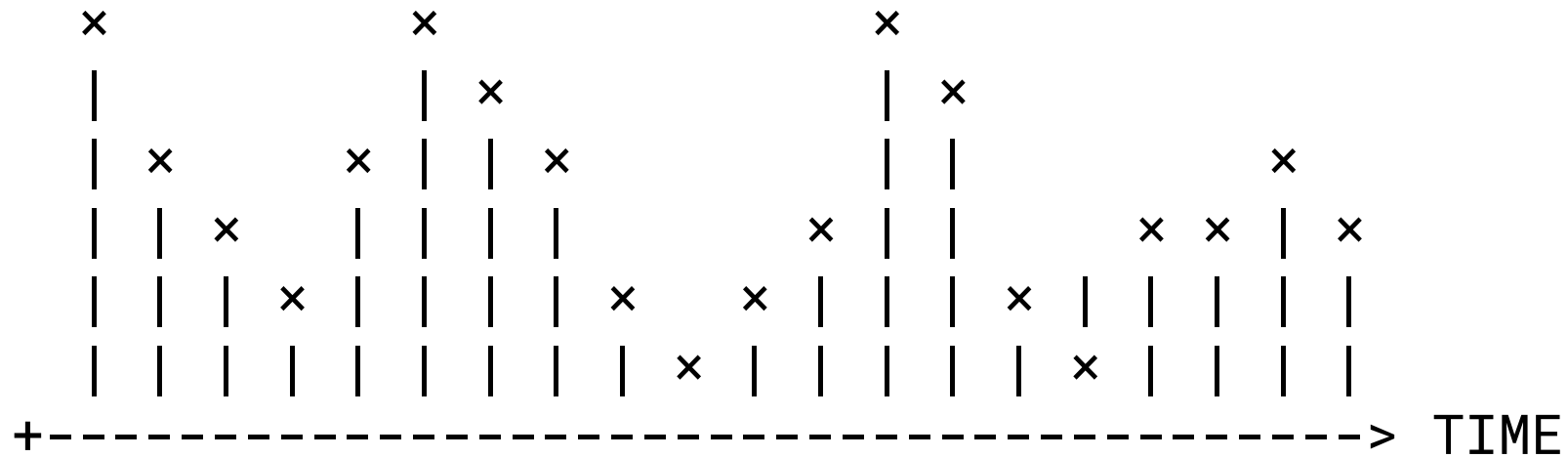
- LIBRARIES
- VSTS ( OR AUDIO UNITS )
- WRITE MCU CODE
- APPLICATION
- TRANSCEND THE CONFINEMENTS OF *PROGRAMMING* LANGUAGES E.G
  - PROCESSING/JAVA
  - C/C++
  - RUST

BOTTOMLINE, YOU SHOULD KNOW ABOUT  
THE OMINOUS AUDIO BLOCK

# AN EXTREMELY BRIEF EXPLANATION OF THE OMINOUS AUDIO BLOCK

- › INSTEAD OF JUST CALCULATING A SIGNAL *SAMPLE BY SAMPLE*, IT IS PRODUCED IN A BLOCK AKA AN **AUDIO BLOCK**.





SAMPLES OVER TIME  
AUDIO BLOCKS OF 8 SAMPLES

BTW A SAMPLE IS USUALLY A FLOAT VALUE BETWEEN  
[-1.0, 1.0].

## SOME LIBRARIES AND PROJECTS THAT USE THIS CONCEPT:

- KLANGSTROM #ARDUINO ==TODO UPLOAD UPDATE==
- WELLEN #PROCESSING
- MOZZI #ARDUINO
- TEENSY AUDIO LIBRARY WITH THE HELP OF KLANGSTROM TEENSY  
AUDIO LIBRARY
- MUTABLE INSTRUMENTS
- DAISYSP

AND MANY, MANY MORE.

PS WHY SHOULD I LEARN DSP IN THE FIRST PLACE WHEN THERE ARE ALL THESE NICE VISUAL ENVIRONEMENTS AND DAWS?

## REASON#1

BECOME LITERATE IN THE BASIC BUILDING BLOCKS.

DO NOT JUST *CONSUME* BUT ALSO BECOME ABLE TO *PRODUCE*.

**REASON#2**

TRANSLATES WELL INTO OTHER CONTEXTS E.G MCU

**REASON#3**

SONIFICATION ( DATA + PARAMETERS + INTERACTIONS )

**IF YOU WANT TO KNOW MORE ABOUT DSP+MUSIC+PROGRAMMING:**



## FURTHER READINGS:

- CURTIS ROADS: THE COMPUTER MUSIC TUTORIAL
- RICHARD BOULANGER + VICTOR LAZZARINI: THE AUDIO PROGRAMMING BOOK
- GARETH LOY: MUSIMATHICS, VOLUME 1: THE MATHEMATICAL FOUNDATIONS OF MUSIC [HTTP://WWW.MUSIMATHICS.COM](http://www.musimathics.com)
- MUSICDSP.ORG
- ...

## VIDEOS TUTORIALS:

- SYNTHSCHOOL ( "VIDEOS ON BASIC SYNTHESIZER TECHNIQUES" )
  - [HTTPS://YOUTU.BE/A6PP60MU5R8](https://youtu.be/A6PP60MU5R8)
  - [HTTPS://YOUTU.BE/9NIAMP RKFW0](https://youtu.be/9NIAMP RKFW0)
  - [HTTPS://YOUTU.BE/YSZKVLNF7WU](https://youtu.be/YSZKVLNF7WU)
  - [HTTPS://YOUTU.BE/ZQCEYXI10GM](https://youtu.be/ZQCEYXI10GM)
  - ETCETERA
- PHIL'S LAB: DSP ( "BASIC DSP TECHNIQUES IMPLEMENTED IN C  
... NOT LIMITED TO AUDIO" )
- ABLETON: GET STARTED MAKING MUSIC
- ...

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